Micro Commercial Components

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US2AFL THRU US2MFL

2 Amp Ultra Fast Rectifier 50 to 1000 Volts

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Glass Passivated Chip
- Ultra Fast Switching For High Efficiency
- For Surface Mounted Applications
- Low Forward Voltage Drop And High Current Capability
- Low Reverse Leakage Current
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 20 °C/W Junction To Lead

MCC Catalog Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
US2AFL	US2A	50V	35V	50V
US2BFL	US2B	100V	70V	100V
US2CFL	US2C	150V	105V	150V
US2DFL	US2D	200V	140V	200V
US2GFL	US2G	400V	280V	400V
US2JFL	US2J	600V	420V	600V
US2KFL	US2K	800V	560V	800V
US2MFL	US2M	1000V	700V	1000V

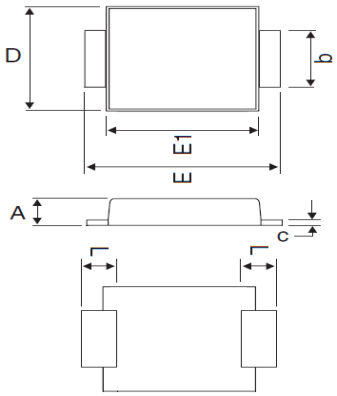
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	2.0A	T_L = 110°C
Peak Forward Surge Current	I_{FSM}	50A	8.3ms, half sine
Maximum Instantaneous Forward Voltage US2AFL-2DFL US2GFL US2JFL-2MFL	V_F	 1.0V 1.4V 1.7V	 I_{FM} = 1.0A; T_J = 25°C
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5uA 350uA	T_J = 25°C T_J = 125°C
Maximum Reverse Recovery Time US2AFL-US2GFL US2JFL~US2MFL	T_{rr}	50ns 75ns	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
Typical Junction Capacitance	C_J	28pF	Measured at 1.0MHz, V_R=4.0V

*Pulse test: Pulse width 300 sec, Duty cycle 1%

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

DO-221AC
(SMA-FL)



DIM	INCHES MIN	INCHES MAX	MM MIN	MM MAX	NOTE
A	.035	.047	0.90	1.20	
b	.049	.065	1.25	1.65	
C	.004	.016	0.10	0.40	
D	.089	.116	2.25	2.95	
E	.173	.220	4.40	5.60	
E1	.126	.181	3.20	4.60	
L	.028	.059	0.70	1.50	

SUGGESTED SOLDER PAD LAYOUT

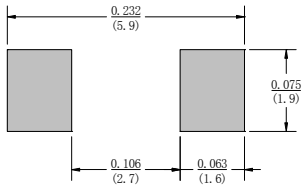
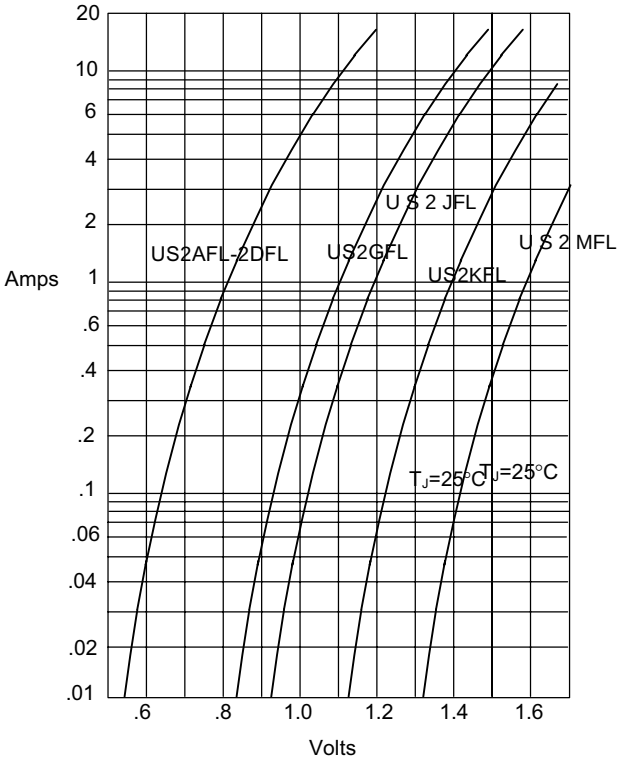
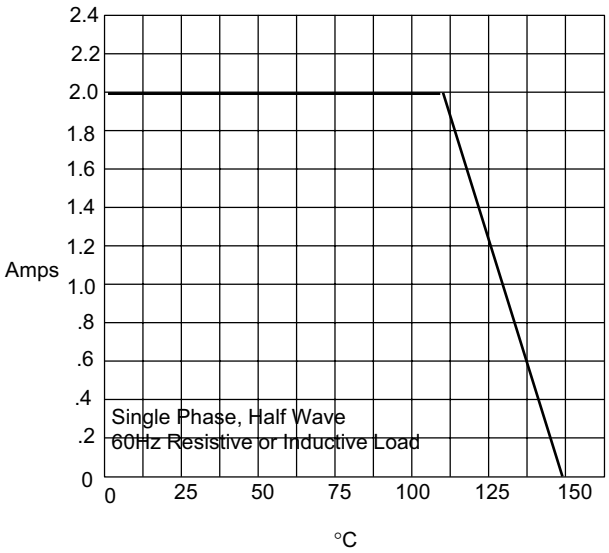


Figure 1
Typical Forward Characteristics



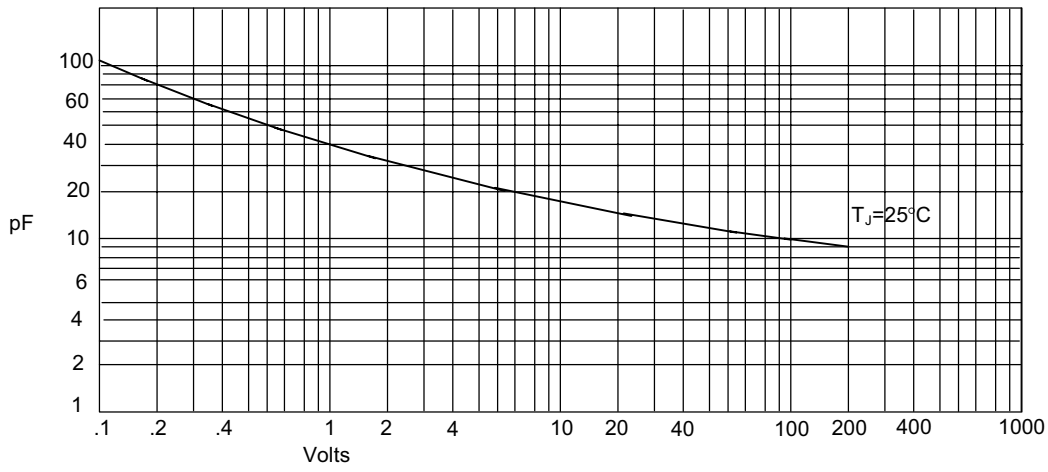
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



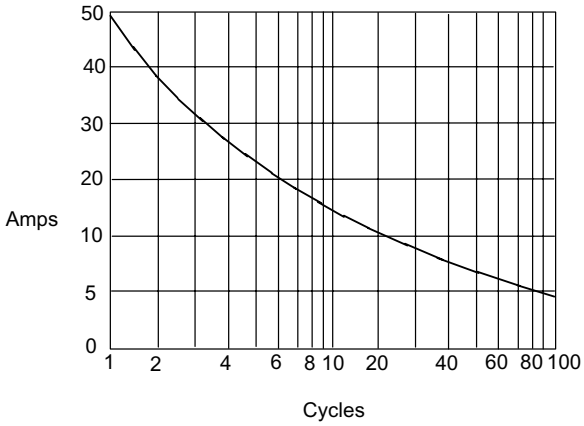
Average Forward Rectified Current - Amperes *versus*
Lead Temperature -°C

Figure 3
Junction Capacitance



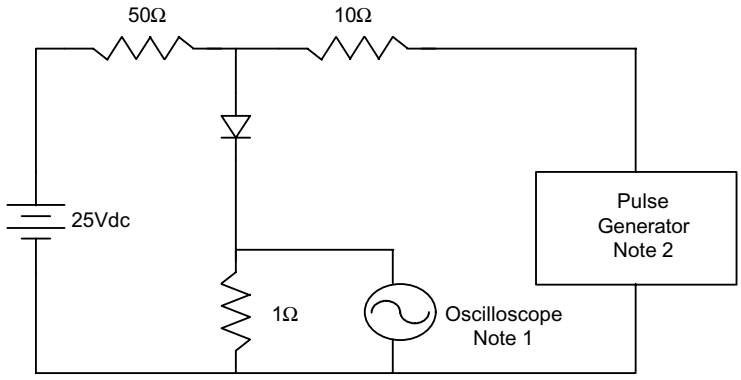
Junction Capacitance - pF *versus*
Reverse Voltage - Volts

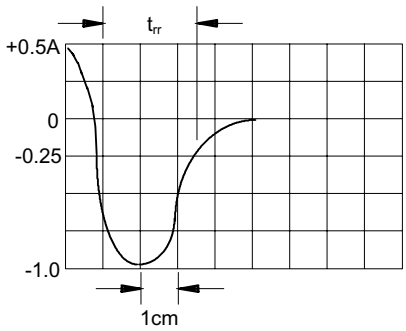
Figure 4
Peak Forward Surge Current



Peak Forward Surge Current - Amperes*versus*
Number Of Cycles At 60Hz - Cycles

Figure 6
Reverse Recovery Time Characteristic And Test Circuit Diagram





Set Time Base for 20/100ns/cm

Notes:
1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.
Source impedance = 50 ohms
3. Resistors are non-inductive

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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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